



PTO/SB/08A (08-03)

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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1

of 2

**Complete if Known**

Application Number	10/685,970
Filing Date	10/10/2003
First Named Inventor	Lange
Art Unit	
Examiner Name	
Attorney Docket Number	DIE0009.01

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
NW	7/20/05	US- 4,023,628	05-17-1977	Bodine	
NW	7/20/05	US- 4,217,753	08-19-1980	Loretan	
NW	7/20/05	US- 4,403,665	09-13-1983	Bodine	
NW	7/20/05	US- 4,693,325	09-15-1987	Bodine	
NW	7/20/05	US- 5,027,908	07-02-1991	Roussy	
NW	7/20/05	US- 5,086,854	02-11-1992	Roussy	
NW	7/20/05	US- 5,409,070	04-25-1995	Roussy	
NW	7/20/05	US- 5,417,673	05-23-1995	Gordon	
NW	7/20/05	US- 5,562,169	10-08-1996	Barrow	
		US- 5,812,068	09-22-1998	Wisler et al.	
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FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				

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Sheet

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Filing Date

First Named Inventor

Art Unit

Examiner Name

Attorney Docket Number

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
NW		"Disc Springs", undated, 1 page	✓
NW		"Mechanisms simplify timing between shafts", undated, pages 262-263	✓
NW		HARRIS, CYRIL M., "Shock and Vibration Handbook", undated, pages 25.1-25.7, Fourth Edition	✓
NW		"General Fundamentals", undated, pages 1-13	✓
NW		"Mutually-opposed springs", undated, page 15	✓
NW		BOART LONGYEAR COMPANY, "Environmental Drilling Division: Sonic Drilling", undated, pages 1-11	✓
NW		"Sonic Drilling Ltd.", undated, page 2, Industry in Action	✓

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